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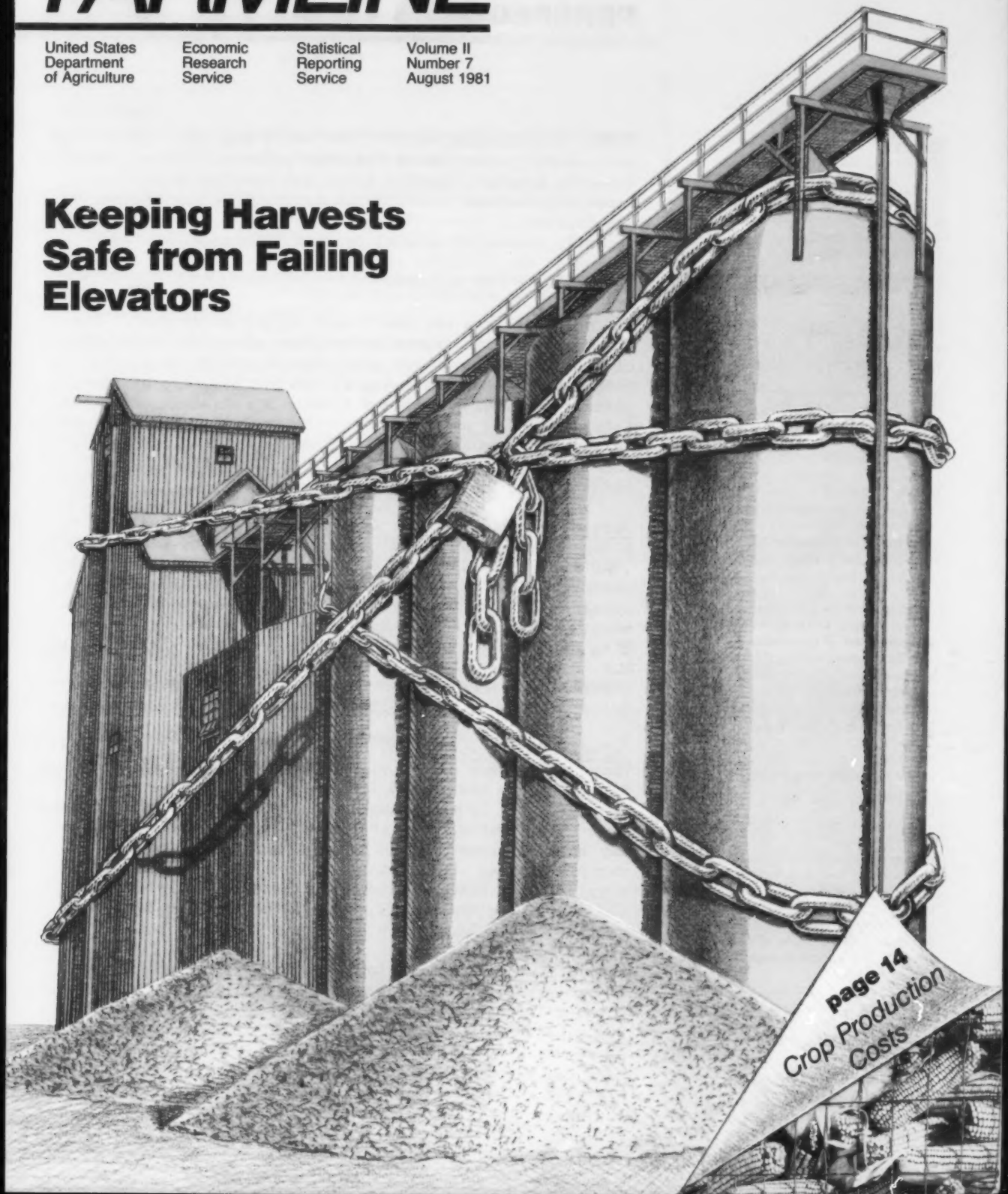
Keeping Harvests Safe from Failing Elevators



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Crop Production Costs

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PERSPECTIVES

First, housekeeping notes. The small type near the top of this month's cover shows FARMLINE's new publishers, the Economic Research Service (ERS) and the Statistical Reporting Service (SRS). What happened to the Economics and Statistics Service? Agriculture Secretary John Block recently announced several reorganizations within USDA. Included: the division of the Economics and Statistics Service into ERS and SRS.

Two agencies from one won't mean bigger government. The idea was to split separate functions along the most efficient lines--without any additions to budget or staff. SRS, its Crop Reporting Board, and its 44 state offices gather and publish crop and livestock estimates and other farm data. ERS provides research, analysis, and forecasting on farm production and demand, farm finances, foreign trade, natural resources, and rural development. Ken Farrell heads ERS, and Bill Kibler SRS.

News on the farm front . . . July 1 conditions pointed to a huge wheat crop of 2.81 billion bushels, up 19% from 1980's 2.37 billion. Expected U.S. average yield: 34.8 bushels per acre, up from 33.4. On the plus side, world demand will rise, and U.S. farmers will use a lot more wheat in feed rations. But we're not the only ones sitting on a record crop--so is the rest of the world. Thus, U.S. prices may not match last season's $3.96. Wheat prices have recently been running below the $3.81 target price, raising a possibility of deficiency payments.

Dwindling corn stocks may provide some support . . . Corn output is pegged at 7.1 billion bushels, up 7% from 1980 but 10% below the record 1979 crop. Yield: 95.9 bushels an acre, up 5 from last year but well below 1979's 109.7. Even with a better crop than last year, 1981/82 supplies may be down about 3% from this season because of low carryin stocks. Prospects of corn dropping to critical supply levels have boosted price forecasts. Prices for the season beginning Oct. 1 may average $3.00-$3.50, compared with this year's estimated $3.15 per bushel.

Hot, dry weather is cutting into Soviet crop prospects. This may be their third poor harvest in a row if weather doesn't improve. USDA now estimates their grain crop at 200 million tons, well below their 236-million-ton target. Add a new trade agreement with Brazil to those with Argentina and Canada, and it seems we're at the bottom of their shopping list. But the Soviets aren't likely to find all the grain they need without eventually coming to the U.S.

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Although elevator and warehouse bankruptcies are few and far between, that's little comfort when your crops and earnings are at stake. Some recent proposals may help safeguard your harvest.

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Want to get maximum mileage from your oilseed crop? Researchers are testing a combination of diesel fuel and vegetable oil as an alternative to conventional diesel fuel for running farm equipment.

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There was an ominous ring when Japan, our biggest farm trade customer, agreed to curb car sales to the U.S. Will American agricultural exports suffer the consequences?

Gathering Farm Statistics in China: An Inside Look *by Bill Gordon* 12

If gathering accurate U.S. farm statistics is complicated, consider the problems in China. Three USDA statisticians recently spent time with their Chinese counterparts, learning how they collect farm data, sharing ideas, and sharpening tools for sizing up the China market.

Crop Production Costs: This Year's Prospects by *Daniel R. Williamson* 14

Crop production costs continue to rise, but they may not squeeze farmers as much as last year—particularly if yields recover as expected. Here are USDA's 1981 cost of production forecasts for 11 major field crops.

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Keeping Harvests Safe from Failing Elevators

After droughts, insects, hail, and other natural disasters, some farmers face another threat: elevator and warehouse bankruptcies.

Statistics indicate that the risk is small. Only about 175 grain elevators out of an estimated 10,000 nationwide have closed or reorganized since 1975. However, the failure rate may be increasing.

"The number of bankruptcies per year rose over the last few years," says USDA economist Bruce Wright. "Because this has been a time of high interest rates and inflation, it looks like the increase is tied to the general state of the economy. Still, the number is small."

Although bankruptcies are few and far between, that's little consolation for farmers unlucky enough to put their crops in a financially shaky elevator at the wrong time. Their crops—and the money they need for next year's plantings—are often tied up as courts sort out the legal tangle.

Both grain and cotton facilities can go bankrupt, but most of the focus is on grain elevators. There are more of them, and cotton warehouses are less likely to fail because they are only involved in storage and not in speculation.

Occasionally, failing elevators sell the grain to avoid bankruptcy. This usually doesn't save the elevator, and farmers lose their crops and money. Even if all the grain is in the elevator when it goes bankrupt, legal expenses often eat away farmers' returns.

In addition to providing storage, elevators and warehouses frequently market crops under delayed-price and deferred-payment contracts. In both cases, the warehouse receives title to the crop but delays payment until the crop can be sold at a price or time advantageous to the farmer. If the elevator fails before payment is made, bankruptcy laws give other creditors priority claim to the facility's assets. The farmer holding a price-later contract is one of the last to be reimbursed.

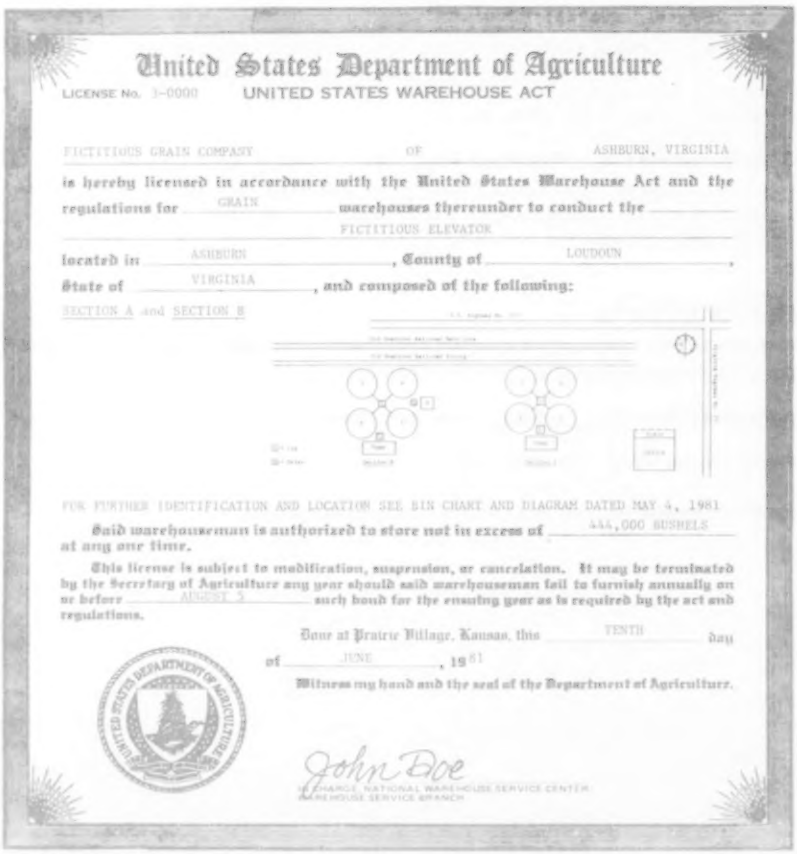
The producers who are only storing grain in the elevator are in much better shape because they retain title to the grain.

According to one study, just over 3,000 farmers were claimants in elevator bankruptcy suits in 23 states between 1974 and 1979. Although this number is relatively small, a single, well-publicized bankruptcy can affect how farmers view normal transactions with warehouses.

Lowering the Risk

So, how can farmers reduce their risk? That's not an easy question. "A farmer may lose valuable time trying to check out the solvency of local grain elevators," Wright says. "Many times that information is not even available."

Perhaps the best protection is given when elevators are licensed under USDA's Federal Warehouse Act or meet the Commodity Credit Corporation's (CCC) Standards for Approval of Warehouses. But, USDA can only regulate warehouses and grain elevators that choose to be licensed under the Act or approved by the CCC. The financial



United States Department of Agriculture

LICENSE No. 1-0000 UNITED STATES WAREHOUSE ACT

FICTITIOUS GRAIN COMPANY OF ASHBURN, VIRGINIA

is hereby licensed in accordance with the United States Warehouse Act and the regulations for GRAIN warehouses thereunder to conduct the FICTITIOUS ELEVATOR

located in ASHBURN, County of LOUDOUN,

State of VIRGINIA, and composed of the following:

SECTION A and SECTION B

FOR FURTHER IDENTIFICATION AND LOCATION SEE BIN CHART AND DIAGRAM DATED MAY 4, 1981

Said warehouseman is authorized to store not in excess of 444,000 BUSHELS at any one time.

This license is subject to modification, suspension, or cancelation. It may be terminated by the Secretary of Agriculture any year should said warehouseman fail to furnish annually on or before AUGUST 1 such bond for the ensuing year as is required by the act and regulations.

Done at Prairie Village, Kansas, this TENTH day of JUNE, 1981

Witness my hand and the seal of the Department of Agriculture.

John Doe

IN CHARGE, NATIONAL WAREHOUSE SERVICE CENTER
WAREHOUSE SERVICE BRANCH

All federally licensed warehouses must prominently display a license, bin chart, and diagram.

practices of most other storage places still fall under some state review, but requirements vary from state to state.

USDA annually publishes a list of all storage operations licensed under the U.S. Warehouse Act. For a free copy, write to the Warehouse Division, Agricultural Marketing Service, USDA, Washington, D.C. 20250.

To be federally licensed, storage facilities must have net assets equal to 20 cents per bushel of approved capacity. A number of items owned by the warehouse can be added together to make up net assets, including land, buildings, equipment, bank accounts, and stocks and bonds.

Elevators also must put up a bond of 20 cents per bushel on the first million bushels, 15 cents per bushel on the second million, and 10 cents on the next million and a half. The bond doesn't exceed $500,000.

In addition, USDA recently proposed regulations that would give some protection to farmers who deposit their grain in federally licensed warehouses for other than storage purposes—such as marketing under delayed-price and deferred-payment contracts. Just as the present regulations guarantee net assets to partially cover the worth of the bushels stored in a facility, the proposals would cover the amount of money involved in marketing transactions—20 cents per bushel sold. An additional $250,000 bond would also be required.

The standards are different for storage operations under contract with the CCC. Warehouses with capacities between 250,000 and 2.5 million bushels are required to have a net worth equal to 10 cents per bushel of storage capacity.

For example, a capacity of 1 million bushels would require a net worth of $100,000 (1 million x 10¢ = $100,000). Facilities that store less than 250,000 bushels must have assets of at least $25,000. Operations that are larger than 2.5 million bushels have to show a net worth of at least $250,000.

Of course, 10 or 20 cents per bushel isn't enough to cover the total value of the grain. But, the regulations take into account that in most elevator bankruptcies at least some of the grain is returned to farmers. The requirements provide some protection for any grain that may be missing. Also, at the time the regulations were written, the price of grain was lower, and 10 and 20 cents reflected a larger portion of a bushel's value.

"Elevators volunteer to be licensed because frequently they operate as grain merchants as well as storage warehouses," says James Springfield, director of the USDA warehouse division. "The grain merchant is then able to use warehouse receipts as collateral for a loan. Because the elevator is licensed, the bank would be more willing to grant a loan."

As of October 1, 1980, facilities licensed under the U.S. Warehouse Act included 228 cotton warehouses with total storage capacity of about 10 million bales (54 percent of commercial cotton storage); 1,808 grain elevators with a storage capacity of around 3 billion bushels (43 percent of commercial grain storage); and 74 warehouses storing other commodities.

Over 70 percent of the U.S. cotton crop will be stored in federally licensed warehouses sometime before use, and 30 percent of all grain producers will deal with licensed elevators.

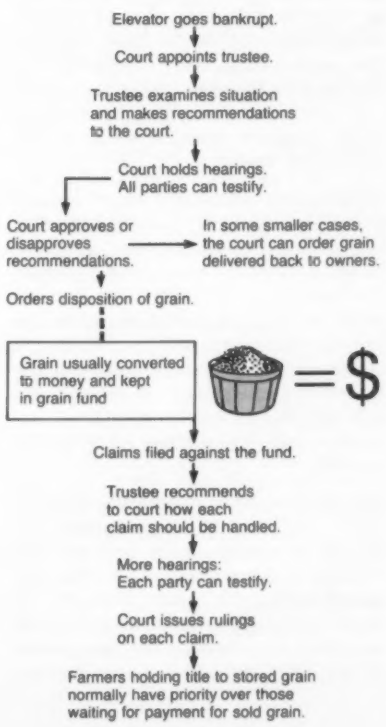
During the last 2½ years, only eight federally licensed warehouses declared bankruptcy. In these cases, the required bond assured farmers of 20 cents on every bushel lost. While this is still a considerable loss, the amount of bonding for warehouses without federal licenses can be even more inadequate.

Possible Solutions

The threat that bankruptcy can strike anywhere, at anytime—sometimes with few safeguards—has been a growing concern to farmers, especially in the wake of recent elevator failures. Even the statistically remote chances of a bankruptcy provide little comfort when an entire year's earnings may be at stake.

Responding to these concerns, USDA Secretary John Block appointed a task force shortly after taking office. The purpose: to review current grain elevator laws and regulations to find out what more could be done to protect the agricultural community from elevator bankruptcies.

What Could Happen in a Bankruptcy


Elevator goes bankrupt.
Court appoints trustee.
Trustee examines situation and makes recommendations to the court.
Court holds hearings. All parties can testify.
Court approves or disapproves recommendations.
In some smaller cases, the court can order grain delivered back to owners.
Orders disposition of grain.
Grain usually converted to money and kept in grain fund
=$
Claims filed against the fund.
Trustee recommends to court how each claim should be handled.
More hearings: Each party can testify.
Court issues rulings on each claim.
Farmers holding title to stored grain normally have priority over those waiting for payment for sold grain.

The task force solicited suggestions from representatives of farm organizations, the warehouse industry, state governments, and the public. In May, it presented several proposals to Congress.

"The options concentrate on ways elevator bankruptcies can be prevented," says Merrill Marxman, a member of the task force and an area director with USDA's Agricultural Stabilization and Conservation Service. "They're not aimed at solving the problem after it happens."

The task force ruled out creating a bankruptcy insurance program or starting a new federal agency to deal with the problem. Among the task force's recommendations: greater cooperation and consistency between the federal government and the states.

"We recognize that there are some very good state programs for regulating warehouses, but some states do not have very strong laws. That's why we need to work together for greater uniformity," Marxman says. "One possibility is a pilot program in which we work with one or two states."

USDA is also considering ways it can get more involved under current laws and regulations, as well as what possible changes could be made. For example, the task force proposed that the net worth of CCC-approved elevators be raised to 20 cents per bushel of the elevator's capacity. This would put the net worth requirement on par with the U.S. Warehouse Act and would help ensure a greater degree of financial stability.

The task force also suggested a $20,000 to $500,000 performance bond for each storage operation under contract with the CCC. Since 1963, CCC has not asked warehouses to carry performance bonds, but it does require other types of approved security if the warehouse owner can't meet the net worth requirement.

Suggested: a national clearinghouse for the study of elevator failures.

According to the proposals, warehouses and elevators that contract with the CCC could be required to be licensed under the U.S. Warehouse Act or under state laws and regulations that are comparable with the Act.

A Useful Tool

Another possible change is that both licensed and CCC-approved storage operations would be required to submit a financial statement prepared by an independent certified public accountant. As well as including an operating statement, it would verify inventory, confirm storage obligations and payments for grain, and list bank loans and the facility's market position.

"This sort of audit is a good working tool for management and regulatory personnel," Marxman says. "It gives USDA warehouse examiners necessary information that aids in completing their examinations."

Finally, the task force identified a need for more information about elevator bankruptcies. Suggested: a national clearinghouse for the study of elevator failures. Part of it could be based at USDA to monitor grain elevators and help track emerging problems.

Some of the proposals require new legislation, which depends on Congress. Others can be handled by USDA.

Recently, Senator Robert Dole introduced a bill on elevator bankruptcies before the Senate Subcommittee on Courts. Its main intent is to establish that grain held in storage for somebody else is not part of an elevator's assets and should be promptly distributed to the owners. The bill is being reviewed by the subcommittee.

Meanwhile, the task force will continue to study the proposed changes and decide. what proposals USDA could soon adopt.

It Happened in Stockport

One of the largest bankruptcies in Iowa occurred when the Prairie Grain Company of Stockport failed in February 1980.

A special review of the company by the Iowa State Commerce Commission's warehouse division revealed that the business was having serious financial problems. "There was a sizable shortage of grain, and many who sold grain to the company had not been paid," says Wallace Dick, division director.

The total amount lost is estimated at around $10 million, with about $6 million in grain losses. Out of 1,002 claimants, about 700 were farmers. Because the case is still being reviewed by the court, individual losses are not known yet.

The Iowa bankruptcy is unusually large. Most are like the two smaller cases that occurred in the southeast last spring. When E.L. Rivenbark and Sons, Inc., of Tabor City, N.C., and George Kerr, Inc., in Marlboro County, S.C., went bankrupt, about 350 farmers were involved.

The combined value of the grain lost was about $5½ million. Once again, the outcome won't be known until the courts decide.

Can Home-Grown Oil Stretch Your Diesel Dollar?

It isn't crude, but it is oil. It's diesaveg (dee-za-vej), a combination of diesel fuel and vegetable oil. And according to agricultural researchers, diesaveg is coming on strong as an alternative to conventional diesel fuel.

"By the end of this decade, diesaveg could become a fairly common farm fuel," says John Baldwin, professor of agricultural engineering at Louisiana State University. "With the right portable equipment to crush and filter the oil, farm energy needs could be met, at least partially, from crops."

Baldwin and colleagues Billy Cochran and Lawrence Daniel have focused their attention on soybean oil and diesel fuel combinations—they call it diesol—for farm energy. And other oilseed crops hold similar potential. In fact, diesaveg is the subject of study at several other universities and also at four USDA regional laboratories where new markets for farm commodities are researched.

But the idea is not exactly new. Rudolf Diesel's prototype engine, first exhibited in Paris in 1900, ran on peanut oil. And vegetable oil fuels were used, although on a small scale, until just after World War II when cheap and abundant petroleum completely took over the liquid fuel market.

Now that petroleum-based diesel fuel prices are higher than ever, agricultural science is again looking at plant power. Alternative fuels, primarily gasohol, have gotten a lot of attention in recent years. But because of its alcohol base, gasohol can't be used in the diesel engines of most farm machinery.

Farm Energy Answer?

In 1980, farmers used 3.3 billion gallons of diesel fuel, at a cost of over $3.2 billion, just to produce U.S. crops and livestock.

But cost, for now anyway, is the biggest drawback to diesaveg. The price of a gallon of sunflower oil ($2.24) or soybean oil ($1.92) looks steep compared with diesel fuel at around $1.20. But this may not always be the case.

"Trends, especially during the 1970's, point in a different direction," says USDA economist Ed Fryar. During that decade, the price of vegetable oil doubled. But diesel fuel's price tag increased by five times its original amount.

Fryar points out that 1973's oil embargo really made the difference. "The 5 years before the embargo, diesel fuel prices increased an average of 4.5 percent a year. But for the next 8 years, price increases averaged around 25 percent annually," he says.

If these trends were to continue, prices for both diesaveg and diesel fuel would be about equal by the middle to late 1980's.

However, energy analysts say that diesel fuel prices in the next 10 years will probably not rise as rapidly relative to vegetable oil as they did in the 1970's. If so, diesaveg might not be an economical substitute for diesel fuel until, perhaps, late this century.

Power But Problems

Does diesaveg have enough potential power to really compete with conventional diesel fuel? According to Fryar, the answer is yes.

But there are some other problems. Diesaveg is heavier than regular diesel fuel. Mixtures with high percentages of oil tend to jell. And almost all oil and diesel fuel mixtures don't burn completely, leaving carbon traces on engine parts. So, researchers are working on some fuel modifications.

The Louisiana State researchers are experimenting with chemical additives in hopes they can eliminate or stabilize the carbon and jelling problems. And others are looking into both agriculturally derived alcohol or other oil mixtures.

"Short-run tests have been promising," says Baldwin. "It's the longer-range use that needs more scrutiny."

But because of its availability and price, Baldwin sees diesaveg's use more as a supplement to rather than a substitute for diesel fuel. Especially during an oil crisis, diesaveg could help replace conventional farm fuel. "If the fuel is viable, and the situation is urgent, cost won't make that much difference to the producer who has thousands of acres to harvest," says Baldwin.

To make sure the fuel works in real-life circumstances, the LSU researchers are conducting an experiment with Louisiana's State Department of Highways. This season and next, three State highway tractors will use various mixtures of diesaveg. Comparisons with the performance of a tractor run on conventional diesel fuel may give clues for any further modifications diesaveg needs.

Another problem is that the nation cannot produce enough vegetable oil to replace diesel fuel entirely, without disrupting its ability to produce food. For instance, 94 percent of the soybean oil consumed in this country is used for food.

"Vegetable oil cannot be considered a universal fuel substitute," says Baldwin. "It would be a small part of this country's total energy picture, but diesaveg could be an essential part as far as agriculture is concerned."

The Alternative's Alternative

Even if cost continues to be a problem, the diesaveg alternative has an alternative of its own: used vegetable oil, called waste-oil diesaveg, that has already been used in preparing food.

Last year, Ohio State University ran a campus bus on a mixture of 80-percent diesel/20-percent waste vegetable oil. The oil was collected from campus cafeterias and filtered through cheesecloth twice to remove impurities before being mixed with the diesel fuel. And

since no major mechanical problems occurred with the bus, Ohio State is planning a large-scale diesaveg experiment. Next semester, all the university's buses will run on the waste-oil mixture.

According to Fryar, the waste oil alternative holds a brighter future than fresh-oil diesaveg. "The price will always be less than the fresh-oil variety," says Fryar. In fact, Fryar contends that as a result of diesel fuel price increases over the last 2 years, waste-oil diesaveg is already a cost-effective alternative to the conventional fuel.

As with most new products and technologies, there is a lag between engineering and economic feasibility in the wide-scale adoption of the product or technology. And Fryar says that while it may take several years for waste-oil diesaveg to be widely adopted, its common use appears to be on the horizon.

Sunflower Power

Imagine growing one food crop, following it with a diesaveg crop, and using the diesaveg energy to plant another food crop.

Double-cropping oilseeds for food and fuel could become commonplace in the future. "We're seeing an increasing interest in the sunflower as a double-crop alternative," says Ken Kaufman, research agricultural engineer at North Dakota State University in Fargo.

Kaufman has been doing diesaveg research with test engines and diesel engine fuel pumps. And, he says, a sunflower oil/diesel fuel combination shows the most promise for sustained use in present-day diesel engines.

"With pure vegetable oil, you can get a carbon buildup on the injectors in the cylinder. And after constant use, vegetable oil often leaks into the crankcase oil and solidifies so engine lubrication is almost impossible," Kaufman says.

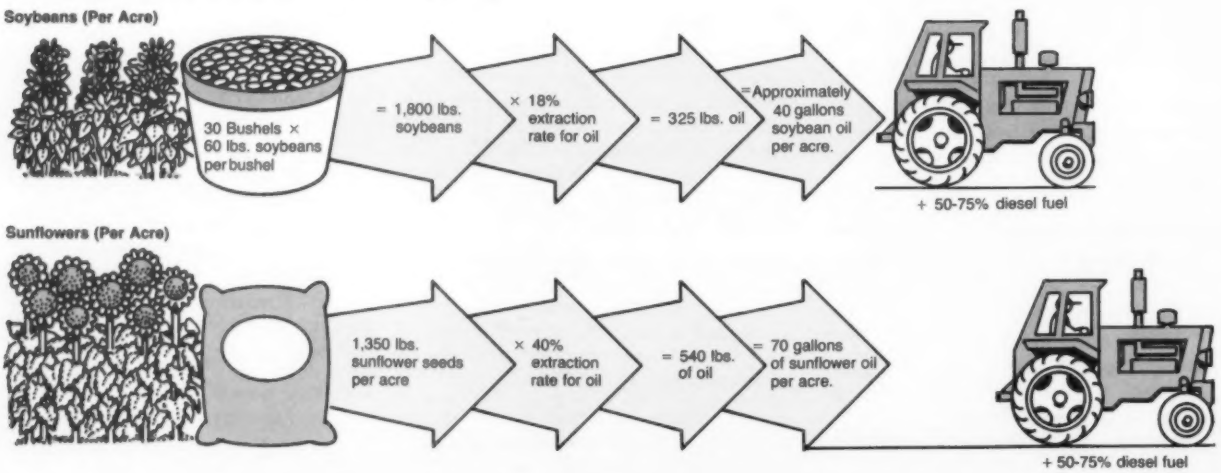
These problems are curtailed when vegetable oil is mixed with diesel fuel. That's exactly what researchers are doing with sunflower oil in North Dakota.

And of all the oilseeds, sunflowers can produce more gallons of fuel oil per acre than other popular oilseeds. (Peanuts are an exception; however, production costs are nearly five times as great as for sunflower.)

An acre of sunflowers at average seed yields can produce over 70 gallons of oil. North Dakota farmers burn 5 to 9 gallons of fuel per acre to produce crops, depending on the crop, according to Kaufman. So, one acre of sunflowers—providing around 70 gallons of oil—mixed with 70 gallons of diesel fuel could provide fuel to farm about 20 acres of crops.

"There is no doubt you can burn sunflower oil in a diesel engine," says Kaufman. "We just don't know for how long and what mixture ratios are the best. We'll have a lot more answers after another year or year and a half of work."

Sunflower Oil: More Miles Per Acre Than Soybean Oil


Soybeans (Per Acre)
30 Bushels × 60 lbs. soybeans per bushel
= 1,800 lbs. soybeans
× 18% extraction rate for oil
= 325 lbs. oil
= Approximately 40 gallons soybean oil per acre.
+ 50-75% diesel fuel
Sunflowers (Per Acre)
1,350 lbs. sunflower seeds per acre
× 40% extraction rate for oil
= 540 lbs. of oil
= 70 gallons of sunflower oil per acre.
+ 50-75% diesel fuel

AGRICULTURAL ROUNDUP

Adding Up Farmers' Expenditures

Farmers laid out almost $137 billion for production items last year, according to a recent report by USDA's Crop Reporting Board. That was $3.1 billion more than in 1979, but the smallest increase (2.3 percent) since 1975, and much smaller than 1979's 18-percent jump.

The information, furnished by nearly 9,000 farmers and ranchers in the annual Farm Production Expenditure Survey, provides analysts with a breakdown of farm production outlays. The data are also used by USDA's Economic Research Service to sharpen its estimates of expenses in farm income calculations, as well as a base for forecasting expenses and income for the coming year.

A major reason for the smaller 1980 increase was the 19-percent drop in spending for livestock and poultry inputs, to $17.4 billion. This development came at the expense of cattle producers, who watched the tight money supply, high interest rates, and a low rate of return discourage feedlot operators from purchasing feeder cattle in 1980.

Farmers also spent 10 percent less on capital outlays for tractors, other farm machinery, autos, trucks, building and fencing, and farm and motor supplies. These items totaled $27.4 billion in 1980, $2.6 billion less than the year before.

Spending for most other items rose. It's no surprise that farmers had to dig deeper to pay for fuels and energy. Higher prices pushed up spending for these items to $9.9 billion—21 percent more than in 1979 and the sharpest rise of all production items. Diesel fuels in particular cost more—up 35 percent from the year before. Total bill: $3.2 billion.

Interest expenses took a big jump, too. Farmers had to pay $10.6 billion—20 percent more—to obtain credit and meet real estate mortgage payments.

Farm services, though, had the largest price tag. Rent, custom hired work, veterinarian services, breeding fees, insurance, marketing expenses, and hired transportation cost farmers $21.3 billion, up 10 percent from 1979 and 16 percent of all spending. Rent was the big item here, with cash and share rent totaling $11.9 billion.

Feed outlays also took a big chunk of farmers' spending—$20.1 billion. This was 12 percent more than in 1979 and 15 percent of all production outlays, making feed the second largest expense item. In the middle 1970's, it was the biggest cost item for farmers.

Production outlays per farm averaged over $56,000 in 1980, up 2.4 percent from the $55,000 in 1979. This was a small increase compared with the 19-percent jump from 1978 to 1979.

The biggest share of total production expenditures was concentrated among a relatively small number of large farms. Farms with gross sales of at least $100,000 represented about 16 percent of all farms, but they accounted for almost two-thirds of total outlays and about two-thirds of all sales.

Want more details on farm production expenditures? See page 19.

Farm Couple Harnesses Solar Power

A Nebraska farm couple has designed, built, and tested a low-cost solar collector that helps dry their grain and heat their home.

Developed by Gary and Delores Young—with technical assistance from the Small Farm Energy Project, a nonprofit organization—the collector has been operating since 1979. It dried 4,000 bushels of corn last fall, double the amount it dried in 1979.

The collector tested from 58 to 80 percent efficiency. According to USDA economist Walter G. Heid, Jr., this is a reasonable range, based on the findings of USDA and university agricultural engineers who tested a variety of low-cost, homemade solar collectors.

The Young's home heating bill was also reduced. The collector saved them about 156 gallons of propane last winter and 141 gallons the year before, based on their fuel requirements of past winters. According to the Youngs, the savings represented about 25 percent of their total heating fuel needs last winter, 5 percent more than the previous year's savings.

Featuring a flexible airflow system, the portable flat-plate collector can be tilted to catch the most sunlight. It can be built from used lumber and other materials found around many farms. No prefabricated parts are needed.

For grain drying, the collector and fan system can produce an airflow of 3,000 cubic feet a minute. It will raise the temperature of air flowing into the grain vent by about 12°F at noon. When heating a house, it produces 19,700 Btu's an hour at noon, which can raise the temperature of incoming air as much as 40°. Because grain drying requires a greater airflow, the temperature rise is lower than it would be when the collector heats a house. But, at the higher airflow rate, the collector achieves its greatest efficiency.

The collector cost the Youngs $1,410—$5.88 a square foot—to build. After deducting investment and federal energy tax credits, the annual return on investment was 11 percent. The payback, which is the amount of time needed for energy savings to equal investment costs, is almost 6 years. The collector could pay for itself even sooner, because it was used even more this season than last, when the payback was calculated.

Plans for the Young collector may be purchased for $2 from the Small Farm Energy Project, P.O. Box 736, Hartington, Nebr. 68739. Ask for the *Portable Solar Collector Plans*.

Gary Young uses his homemade solar collector to heat his McClean, Nebr., farm house.

Our Japanese Farm Market: Weathering the Car Controversy

Will American agricultural exports suffer now that Japan has agreed to curb car sales in the U.S.?

After all, the Japanese are our biggest farm trade customer and they depend on their exports of cars and other manufactured goods to finance growing imports of food and fiber, as well as other essential products.

The number of Japanese autos sold in the U.S. grew from 579,000 units, or 6 percent of total U.S. sales, in 1971 to almost 2 million, or 22 percent of the market, in 1980.

For an ailing U.S. auto industry trying to ride out a sluggish economy and high interest rates, the competition had become too much. So, manufacturers appealed for help.

In May, Japan agreed to limit car exports to the U.S. For the April 1981-March 1982 period, exports will be held to 1.68 million vehicles, about 8 percent fewer than during the previous 12 months. Shipments could increase in 1982 depending on growth in the U.S. car market, and in 1983 Japan will consider whether any further restraint is necessary.

For U.S. farmers, who have long battled Japan's trade barriers, these developments have an ominous ring. But farmers shouldn't worry, according to USDA trade analyst Bill Coyle.

"More restrictive Japanese policies on agricultural items of importance to the U.S. are unlikely," says Coyle.

Japan is a rugged land about the size of California, with a population of 117 million—about half that of the U.S. Additional farmland is in very short supply.

"The Japanese market for imported agricultural commodities will continue to expand over the next several years, due to continued growth in population and real incomes and slow growth in Japan's domestic food production," Coyle says.

Growing U.S. Market

Any increase in agricultural imports by Japan should translate into increased income for the U.S. farmer.

In 1980, U.S. agricultural exports to Japan totaled $6.1 billion, almost twice the sales to the second leading U.S. farm goods purchaser. The 1980 total represented a 16-percent increase in value over the $5.3 billion purchased in 1979 and amounted to 15 percent of all U.S. agricultural exports.

This year, Coyle predicts that U.S. farm product sales to Japan should reach a record of about $6.7 billion, due largely to higher commodity prices. Trade volume may not increase greatly for various reasons.

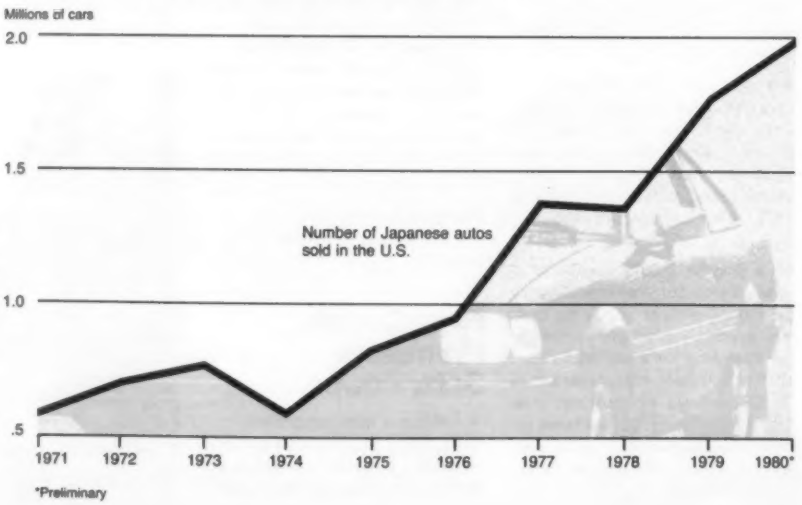
A total of 4 million tons of U.S. soybeans were shipped to Japan in 1980, compared with 3.7 million tons in 1979. This year, U.S. farmers might experience a slight drop in sales because of Japan's overpurchase of soybeans in 1980.

Coarse grain sales reached a record volume of 15.7 million metric tons in 1980, up 28 percent from 1979's 12.3 million tons. The increase was largely a result of changes in trade patterns resulting from the U.S. suspension of grain sales to the USSR and a 2.6 percent rise in Japanese livestock production.

In 1981, coarse grain shipments should remain close to the previous year's level, restrained by Japan's adoption of a surplus rice feeding program in June 1981 and by a slowdown in Japanese livestock production. For the future, Coyle says, U.S. farmers can look forward to smaller increases in coarse grain sales than experienced during the 1960's and 1970's. Reasons: slower growth in Japanese consumer incomes and slower expansion of their livestock sector.

Japan's wheat imports from the U.S. totaled 3.3 million tons in 1980, about the same as in 1979. This year's sales

The Japanese Depend on Auto Sales to the U.S. . . .



will be limited by a Japanese program of double-cropping wheat on land previously devoted to rice and diversion of rice area to wheat. Consequently, U.S. 1981 wheat exports to Japan will probably be about the same as last year.

Other leading sales items to Japan in 1980 were grain sorghum at 3.8 million tons, cotton at 310,000 tons, and fresh citrus at 300,000 tons.

Protectionist Policies

U.S. producers continue to chalk up huge sales despite efforts by the Japanese government to protect their own agricultural production by limiting the amount of farm products purchased from abroad.

These restrictions have been primarily targeted at high-value agricultural goods, such as livestock products and fruits and vegetables. Bulk-commodity imports, such as grain, have entered Japan with minimal restraint.

Like most countries, Japan tries to produce as much of its food as it can. However, according to Coyle, it's a near impossible task for Japan's agricultural production to keep pace with rising demand.

One reason: "Japan's agriculture is one of the most inefficient sectors of its economy," he says. "The average farm size is about 2.5 acres and, although yields are quite high, agricultural labor productivity is among the lowest of developed countries."

Coyle explains that the Japanese government protects agriculture with large support payments to keep land, labor, and capital resources in farm production.

High prices received by Japan's farmers are assured by insulating their sales from competition with lower priced imports. This is done in part by the use of import quotas.

"Altogether, import quotas are imposed on 22 different agricultural products ranging from oranges to beef," says Coyle.

"Despite all these protective efforts, the country's agricultural self-sufficiency—in terms of calorie requirements—has fallen from 76 percent of the recommended daily requirement in 1960 to 44 percent in 1977," Coyle says.

Relaxed Restrictions

The current restrictions on high-value items are considerably more relaxed than they were during the 1970's, thanks to U.S.-Japan bilateral trade talks in 1978 and the Multilateral Trade Negotiations concluded in 1979.

As a result, Japan made tariff and quota concessions on over 150 different agricultural items. Most of the reductions in tariff rates will be phased in gradually between 1980 and 1987. Quota enlargements will be phased in between 1980 and 1983.

Among the major concessions of the U.S.-Japan pact were increasing quotas on high-quality beef, oranges, and citrus juice imports.

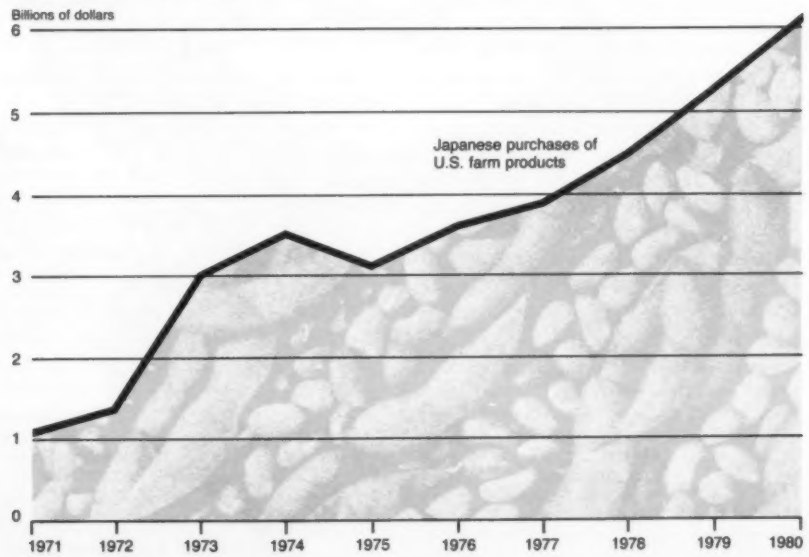
Coyle says that Japan will continue to protect its agriculture in the future, but not as stringently as before. He bases this contention on the declining political influence of the ruling Liberal Democratic Party, which derives much of its strength from Japanese rural districts.

"Short-term protectionist policies might be implemented to temporarily solidify farm support. But the longer term outlook is for less favored treatment to Japan's agriculture."

In addition, tightening food supplies should lead to further relaxation of trade restrictions.

For the future, Coyle warns that Japan is sensitive about its dependence on the U.S. for food and will, when possible, attempt to diversify sources of supply. But, for the next several years at least, he expects the U.S. to maintain its large share of the expanding Japanese market.

. . . To Help Pay for Rising Imports of American Farm Products



Gathering Farm Statistics in China: An Inside Look

Three American agricultural statisticians got a chance to work with their Chinese counterparts last March, while sharpening the tools that will help them size up the China market for U.S. farm goods.

On the month-long tour, Marshall Dantzler, team leader and assistant to the Administrator of USDA's Statistical Reporting Service; Jim Ramey, data processing specialist; and George May, remote sensing specialist, observed China's data processing and remote sensing operations. At each stop they also had a chance to explain current American techniques in these areas.

The visit was part of an ongoing series of science and technology exchanges between Chinese and U.S. agricultural experts, where information on such other topics as soil conservation, irrigation, forestry, agricultural engineering, and crop improvement is also shared.

The exchange of information on data gathering and analysis methods should help both countries obtain more accurate data and make better forecasts of China's crop and livestock production, Dantzler says. U.S. agricultural leaders, armed with more precise information, can then better assess the vast potential Chinese market and design strategies for expanding U.S. farm sales to China.

Central Computer System

While China relies far less on computers than does the U.S., they do have a system of national, provincial, and municipal computer centers that serve a number of government agencies.

Dantzler says the Chinese were somewhat apologetic about the state of their computer technology, which is a few years behind the U.S., but they're quick to assimilate new ideas, he adds, and are "building a good foundation—especially in agriculture—where they're concentrating their efforts in computer-assisted analysis."

Their computer capability in a number of areas varies from extensive to none. For instance, their eight regional weather forecasting centers are tied to the main computer in the Central Meteorological Bureau, with up-to-date information moving both ways. At the same time, some technicians involved in agricultural data development still use the abacus, the ancient Chinese manual calculator.

Their methods of collecting agricultural data are determined somewhat by the organization of Chinese society. Under the central government there are 29 provinces, then prefectures (comparable to U.S. crop reporting districts), counties, communes, production brigades, and production teams, to which virtually every peasant (the official designation for agricultural workers in China) belongs.

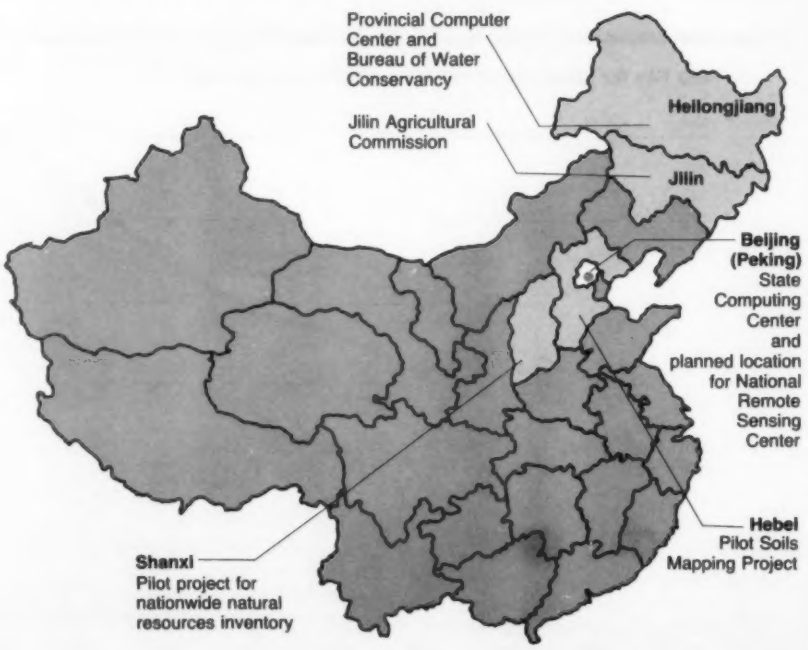
In the surveys done early in the season to forecast crop production, data on areas sown to crops and other relevant information are reported by every production team—the basic production unit—and compiled by each administrative level up to the central level.

Since China's computer system is limited, agricultural data analysis must share computer time with other tasks. For instance, the State Planning Commission Computing Center in Beijing (Peking), in addition to preparing reports on the living standards of the Chinese people, develops statistics on the characteristics of agricultural production and income for each province.

Projecting Timber Resources

The ministries of Agriculture, Commerce, and Cereals, among other agencies, use these statistics to make import/export policy and to manage the

USDA Experts Visited Centers of China's Farm Data System


Provincial Computer Center and Bureau of Water Conservancy
Heilongjiang
Jilin Agricultural Commission
Jilin
Beijing (Peking) State Computing Center and planned location for National Remote Sensing Center
Hebei Pilot Soils Mapping Project
Shanxi Pilot project for nationwide natural resources inventory

national economy. Long-range forecasts are also prepared at the center, such as the projection of timber resources for the next 10, 20, and 30 years.

The Heilongjiang Provincial Computer Center was set up about a year ago to do a number of data processing chores, among them several that will benefit agricultural managers:

- Summarize data on communes' economic plans.
- Analyze the production of brigades and teams.
- Determine the best distribution of production within the province and the amount available for export to other provinces.

Workers at the center say they hope to use the computer to determine which crops to plant and to analyze weather data and irrigation potential to increase production. They are already experimenting with statistical models to improve yields and make better production estimates during the growing season.

At the center, the team was also shown what happens when an ancient language of 10,000 characters meets a computer. It's reduced to numbers.

Each character is converted into a series of 2-digit codes for storage. When the operator calls up information, a recently developed U.S.-made word precessor converts the codes back into an image of the character that appears on the computer display screen. So far about 4,200 characters can be read by the system.

The Jilin Agricultural Commission is working with Jilin University to develop computerized mathematical models for research and evaluation of available groundwater to help deal with drought problems in the province.

The center also will map forestland and project future timber production. In this project, U.S. Landsat satellite images will be processed by computer.

Satellite Photos

This kind of remote sensing operation is an area where the Chinese have learned quickly. Remote sensing includes any technique that gathers data from a distance—as from aerial photos or satellite imagery.

Beginning with black and white aerial photos in the 1950's, used to inventory and classify forest lands, the Chinese have grown increasingly sophisticated in their analytical techniques—first with infrared photography in the early 1970's, then with Landsat photos purchased last year from the U.S. This technology is being used in a nationwide Natural Resources Inventory.

The Chinese also buy the satellite-generated digital information from which the photos are produced, but they usually work directly from the photo in their mapping programs as they haven't fully developed the computer technology to routinely convert the numerical data.

Most of the analysis of remote sensing data is done at the Beijing Agricultural University, the planned location for the National Remote Sensing Training and Applications Center. There are plans for five subcenters throughout the country, each doing remote sensing work appropriate to the geographic region.

Mapping Soils

The Chinese want to apply these techniques to soil mapping. With aid from the U.N. Food and Agriculture Organization (FAO), they have already made a soils map of the Hebei Province. Encouraged by success there, they plan to produce soils maps for the entire country.

For example, they will map saline and alkali soils in the North China Plain, where peasants have watched their yields drop steadily because their crops grow in soil formed from salt water deposits. Landsat photos can show areas of salt-tolerant weeds, soils void of vegetation, and salt crusts, helping analysts pinpoint highly saline areas.

The Chinese were especially interested in the land cover classification systems developed by the U.S. Geological Survey and the Soil Conservation Service. Analysts can determine what is growing in an area—crops, forests, scrub—and which crop should grow best.

The U.S. team got the first look at China's own pilot mapping project, again based on interpretation of Landsat photos. A team of technicians and university teachers produced a complete set of maps for Shanxi Province covering geology, hydrology, land cover, soil types, soil erosion, forest distribution, types of crops, and water systems. Their plans are to map each province until the whole nation is covered.

The Chinese also have a meteorological monitoring system to help them develop yield models for winter and spring wheat, cotton, corn, and rice. Through a combination of remote sensing and ground stations, they collect data on atmospheric pressure, maximum and minimum temperature, dew point, cloud cover, wind speed, rainfall, and soil moisture.

Some of the remote sensing technicians told the team they didn't need computers in their work. While agreeing, the team emphasized in their presentations that more complex analysis would require sophisticated data processing equipment.

Because they lack special equipment, the computers already operating in China are confined to theoretical research in scientific, mathematical, or engineering problems. When large amounts of data must be processed, as in agricultural forecasts and analysis, the computers are inadequate. However, the Chinese are confident they can eventually import and build the equipment, as well as develop programs for processing data.

Crop Production Costs: This Year's Prospects

Rising production costs continue to plague farmers. Costs per acre this year are projected to increase 14 to 19 percent after last year's 15.4 percent per acre jump in expenses—excluding land costs.

But some relief may be in sight. Input prices—especially fuel—should rise less this year than last, especially in light of OPEC's recent agreement to freeze oil prices through the end of the year.

Last year, fuel prices led the surge in production costs with a 38-percent rise over 1979 levels. Even before the OPEC announcement, USDA economists expected a more moderate 22 to 26 percent rise in fuel prices in 1981.

Since fertilizer and chemical prices are greatly influenced by energy costs, these, too, should rise more slowly. Fertilizer prices are expected to rise 12 to 14 percent this year, after a 24-percent jump during 1980. Farm motor supplies, machinery, and interest costs should also rise at a slower rate.

On the other hand, costs of several inputs are expected to rise more this year than last: wages, automobiles and trucks, and seed.

Per Unit Costs

If the overall rate of per acre cost increases for crops shows little if any improvement over 1980, farmers may fare much better by a different yardstick: per unit production costs.

With last summer's drought cutting sharply into yields, 1981 will almost certainly show much smaller increases in costs per unit of production, according to USDA economist Robert E. Olson.

Many farmers would be quick to say that anything would be an improvement over last year, when falling yields and rising costs in most areas meant a staggering jump in per unit costs. Yields declined for all major crops. Peanut yields declined 44 percent, while cotton, sorghum, and soybean yields were off around 30 percent.

Of course, as Olson points out, these 1980 declines were from 1979 levels—a year that saw record or above average yields for most major crops.

Even so, the effect of the drought on per unit production costs was disastrous for many farmers, since the fast-rising input prices were absorbed by small total output. Per unit costs rose an average of more than 40 percent for all crops and 89 percent for peanuts—a crop that was also hard-hit by fungus.

Yields at pre-drought trends this year, Olson says, would mean only modest nonland production cost increases for most crops: corn and oats, 1 percent per bushel; barley, 6 percent per bushel; wheat, 14 percent per bushel; and rice, 11 percent per cwt. Per unit costs should actually decline for sorghum, soybeans, sunflower, flax, peanuts, and cotton.

Of course, the figures for 1980 are national averages. Individual farmers—in each region, state, and county—did better or worse. In fact, some regions—especially those that missed the brunt of the drought—actually increased their production. For example, barley yields increased substantially in the northwest, southwest, and northeast.

Projections showing very moderate per unit production cost increases are also subject to wide variation from area to area and farm to farm. Also, with much of the summer still ahead, no one can rule out another drought or other natural disaster which could again greatly reduce yields.

Keeping these variables in mind, let's take a look at USDA's cost of production projections for 1981 and summaries for 1980 for the 11 major field crops:

Corn

In the five major corn production areas, per acre costs are projected to increase around 15 percent this year, following a 20 percent jump in 1980 over 1979 levels. Rising energy costs—especially to farmers using irrigation—and higher interest rates are major causes.

With the U.S. yield per planted acre declining 17 percent last year, the U.S. average per bushel nonland cost for corn rose 45 percent to $2.36 per bushel in 1980. Costs were highest in the southeast at $3.95 per bushel, and lowest in the Lake states and Corn Belt at $2.10 per bushel.

"The national average corn yield assumed for the 1981 cost projections is 103.2 bushels per acre," Olson says. "If this yield materializes, it will offset most of the projected cost increases."

The 1981 projected nonland production cost of corn is $2.38—2 cents above the 1980 estimate.

Sorghum

The 1980 sorghum crop was so devastated by the drought that per acre cost increases were held down to only 15 percent, partly because of reduced harvesting costs. The U.S. average yield was down 29 percent—34 percent in the central Plains, the major production area. On a per bushel basis, nonland costs increased 63 percent.

If the 1981 average yield hits 55.5 bushels per planted acre—as indicated by pre-drought trends—per acre nonland costs would increase 15 percent, and per bushel costs could decline.

Barley

For barley, U.S. average nonland production costs rose 27 percent per bushel in 1980 as yields dropped 10 percent. This year, assuming more normal yields of 46.4 bushels per acre, per bushel costs should increase only 6 percent.

Costs and yields varied greatly among production areas in 1980. While northern Plains yields dropped 27 percent, farmers in the northwest enjoyed a fine crop, harvesting almost 12 bushels an acre more than in 1979.

This year, assuming a yield of 46.4 bushels per planted acre, costs would be $3.19 per bushel.

Oats

Like barley growers, oat producers saw vastly different results in different areas. The U.S. average nonland cost per bushel last year was $2.17—up from $1.67 in 1979. But costs ranged from $2.01 in the Lake states and Corn Belt to $2.57 in the northeast. Yields were off 10 percent nationally, but they increased 2.6 bushels in the Lake states and Corn Belt.

This year, assuming more normal yields of 51.6 bushels per acre, U.S. average nonland costs per bushel would be $2.19, up 2 cents.

This year, assuming a U.S. average wheat yield of 29.9 bushels, nonland costs per bushel could rise to $4.13.

Wheat

With a record winter wheat crop already harvested before the drought hit, U.S. average wheat yields last year were down only slightly—29.9 bushels compared with 32.4 bushels—from 1979.

The 29.9 bushel yield was the same as in 1978. However, from 1978 to 1980, nonland production costs shot up $33.83 per acre, an increase of 46 percent—the same as on a per bushel basis.

About $5.50 of this increase came from fuel and lubrication, while another $5.40 was in fertilizer prices. Interest costs on operating money rose 130 percent, while machinery costs rose 47 percent.

Among the varieties of wheat, hard red winter accounts for almost half the total U.S. production. Total nonland costs increased 94 cents a bushel last year. Soft red winter wheat costs increased less—about 57 cents a bushel last year—as the U.S. average yield increased almost 2 bushels.

Hard red spring wheat costs rose $1.71 per bushel, U.S. nonland average, as yield fell from 25.5 to 18.7 bushels. Durum nonland costs rose $2.26 as yield declined from 24.9 to 16.5 bushels. White wheat nonland costs fell 3 cents, as yield increased from 44 to 53.5 bushels.

This year, assuming a U.S. average wheat yield of 29.9 bushels—the same as in 1980—nonland costs per bushel could rise to $4.13.

Rice

Machinery cost increases ($27.55) led rises in nonland rice production expenses of $104 per acre from 1978 to 1980. Fuel costs accounted for $20.24 of this increase, and fertilizer prices added another $8.65.

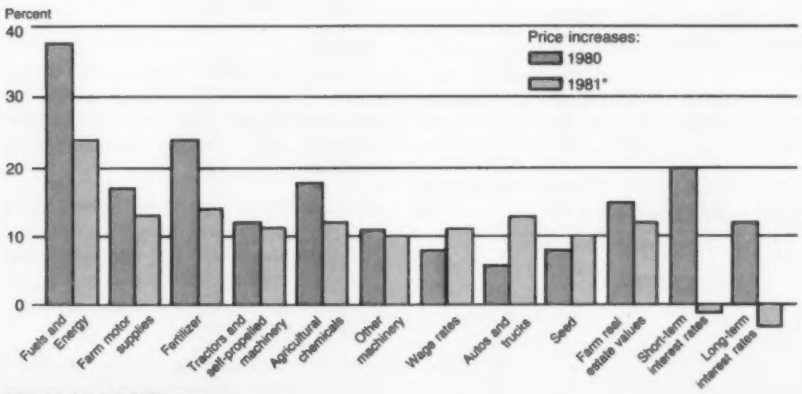
Rice yields dropped 2.6 cwt. per acre last year from 1979's record 45.7 cwt. This year, yields are projected at 44.7 cwt., U.S. average, with nonland production costs of $9.94 per cwt. Last year, costs were $8.92 per cwt.

Soybeans

Soybean yields dropped 18 percent from 1979's record, producing only 26.2 bushels per acre. Per bushel nonland costs jumped from $3.60 to $5.02 in 1980. This year, with yields projected at 30.1 bushels, costs would drop to $4.97.

Costs varied greatly among regions. The Lake states-Corn Belt region, which produces 60-70 percent of the U.S. output, had nonland costs of only $3.73 per

Input Price Increases May Slow



*Midpoint of projected 1981 range.

Production Cost Prospects for 1981 Vary by Crop[1]

	1978	1979	1980	1981
		dollars		
Corn				
Per acre	150.23	177.85	213.54	246.12
Per bushel	1.49	1.62	2.36	2.38
Wheat				
Per acre	74.30	90.36	108.13	123.52
Per bushel	2.48	2.79	3.62	4.13
Soybeans				
Per acre	99.13	114.99	131.47	149.71
Per bushel	3.39	3.60	5.02	4.97
Cotton				
Per acre	262.12	317.56	349.03	405.86
Per pound	0.67	0.63	0.95	0.90
Sorghum				
Per acre	97.68	120.30	138.81	159.35
Per bushel	1.84	1.96	3.19	2.87
Peanuts				
Per acre	377.91	418.30	460.24	546.49
Per pound	0.15	0.16	0.31	0.21
Rice				
Per acre	280.72	323.20	384.76	444.06
Per cwt.	6.31	7.08	8.92	9.94
Barley				
Per acre	92.30	113.30	129.09	147.71
Per bushel	2.02	2.37	3.00	3.19
Oats				
Per acre	72.90	84.86	99.02	113.00
Per bushel	1.46	1.67	2.17	2.19
Sunflower				
Per acre	NA	90.07	106.63	122.61
Per cwt.	NA	6.84	11.20	9.34
Flax				
Per acre	57.19	67.20	75.13	85.36
Per bushel	4.61	5.09	7.44	7.26

[1] Nonland costs only.
Final 1978 and 1979; preliminary 1980; projected 1981.
NA = not available.

bushel last year, while expenses hit $9.51 in the southeast.

Sunflower

About 98 percent of sunflower production is concentrated in Minnesota, North Dakota, and South Dakota. Last year, U.S. average yields declined from 13.2 to 9.5 cwt., while production costs jumped 18 percent. As a result, nonland costs per cwt. hit $11.20 in 1980.

This year, costs are expected to drop to $9.34, assuming a 13.1 cwt. yield.

Peanuts

No crop was hit as hard by the 1980 drought as peanuts. Yields fell 1,000 pounds per acre, U.S. average, to 1,499—giving the smallest crop since 1964. Nonland cost per pound jumped from $0.162 to $0.307.

This year, assuming yields return to a more normal 2,569 pounds per acre, costs should fall to $0.213 per pound.

Flax

Spurred by rising machinery-related costs, per acre nonland flax costs rose $8 last year as yields declined 2.1 bushels per acre. Costs per bushel then rose 46 percent to $7.44, up $2.35 from 1979.

This year, assuming yields of 11.8 bushels per acre, costs could ease to $7.26 from last year's $7.44.

Cotton

Cotton, like peanuts, was hard hit by the 1980 drought. U.S. average yields fell from 502 to 366 pounds per acre, while nonland costs jumped from $0.633 to $0.954 per pound.

Some areas were particularly hard hit. In the southern Plains, only 84 percent of the planted acreage was harvested, and lint yields fell almost 43 percent. In the irrigated southwestern area, however, yields actually increased.

This year, assuming yields of 452.1 pounds per planted acre, U.S. average nonland costs could fall to $0.898 per pound.

REPORTS IN THE NEWS

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Ranking the States

California led the nation with $12.7 billion in cash receipts from farming in 1979, while Texas came in a close second with $10 billion in earnings.

Texas, Iowa, California, Nebraska, and Kansas, in that order, were the leaders in livestock receipts. California, Illinois, Iowa, Texas, and Florida were the top five in crop receipts.

For individual commodities, Texas was number one for cattle and cotton, Wisconsin for dairy, Illinois for corn and soybeans, Iowa for hogs, Kansas for wheat, Arkansas for broilers, and Idaho for potatoes.

Top States, Top Commodities in Cash Receipts

	1978	*1979*
	billion dollars	
Top states:		
California	10.4	12.7
Texas	7.5	10.0
Iowa	8.2	9.5
Illinois	6.1	7.0
Minnesota	4.9	6.0
Top commodities:		
Cattle and calves	12.7	13.1
Dairy products	6.2	7.3
Soybeans	6.2	7.0
Corn	4.0	6.9
Hogs	5.3	5.2

The five leaders in net farm income were California at $3.4 billion, Texas at $1.9 billion, Illinois at $1.6 billion, Florida at $1.5 billion, and Minnesota at $1.4 billion. Iowa's farm assets were valued higher than any other state's, while California farmers held the largest debts.

Want to see how your state stacks up? This statistical report is filled with tables presenting farm financial information by state, using both the original and revised financial accounts discussed in last April's *FARMLINE*.

Economic Indicators of the Farm Sector: State Income and Balance Sheet Statistics, 1979, (SB-661).

Duties on Mexican Tomatoes

Mexico's tomato supply to the U.S. has increased from 100 million pounds in 1957 to over 800 million pounds during the 1978/79 season. It surpassed Florida as the major tomato supplier during some seasons. Import duties on tomatoes from Mexico provide U.S. winter tomato growers some protection from competition with the Mexican grower.

U.S. duty rates on Mexican tomatoes have not changed since 1951 when they were set at 1.5 cents per pound during January and February and 2.1 cents per pound during March, April, and May. In 1951 these rates represented 17 to 23 percent of production costs, but now they are about 7 to 10 percent, mainly because other costs have climbed.

The author examines three possible economic situations over the next 5 years. They are:

- "most likely," representing median estimates of input price inflation and income growth;
- "rapid inflation," representing much higher rates of growth in input costs and per capita income;
- "slower inflation," representing a more moderate rate of growth in input prices and per capita income.

FARMLINE will discuss the "most likely" situation.

Doubling the duty limits the Mexican tomatoes coming into the U.S. by 12.8 million pounds below the projected imports for 1985 if the present duty were continued. This would raise prices to Florida producers by 0.2 cent per pound while Mexican producers would get 1.7 cents per pound less.

The doubled duty would increase the 1985 U.S. retail price per pound for fresh winter tomatoes from 132.9 cents to 133.2 cents. U.S. consumers would purchase about 0.1 pound less tomatoes per person than they otherwise would buy, causing total expenditures for fresh tomatoes during January to May to fall as much as 4 cents per person.

On the other hand, elimination of the U.S. duty on Mexican tomatoes would push up prices to Mexican growers by 1.7 cents per pound and lower prices to Florida growers by 0.2 cent per pound below 1985 projections with continuation of present duty. U.S. consumers would eat slightly more fresh winter tomatoes, while paying 0.2 cent less per pound.

U.S. Winter Fresh Tomato Price and Quantity Projections for 1985 (ESS-4), by G. A. Zepp.

Weighing and Measuring U.S. Agriculture

Nearly 500 times a year, USDA's Crop Reporting Board issues official state and national estimates of crops, livestock, poultry, dairy, prices, farm labor, and related agricultural items, as well as local estimates published by 44 field offices serving the 50 states.

Farm operators are the primary audience for the reports, which help them plan planting, breeding, feeding, and marketing programs. The estimates are also used by most others involved in agriculture, from economists to banks to transportation services to members of Congress.

The Crop Reporting Board uses various data collection methods—and in-the-field observations—to obtain information for their estimates. The raw information is collected from a representative sample of producers and expanded to provide state and national estimates. Sample surveys are less costly in time and money than a complete count and can be more reliable.

The annual cycle of crop estimates begins with reports of farmers' planting intentions, followed by an estimate of acreage actually planted, yield and production forecasts during the growing season, and ends with estimates of harvested acreage, production, and disposition of the crop.

Livestock estimates are issued at various times of the year. For example, estimates of cattle on feed, placements, and marketings are published monthly for seven selected cattle states and quarterly for 23 states.

Cattle and calf inventories for all 50 states are issued in January and July.

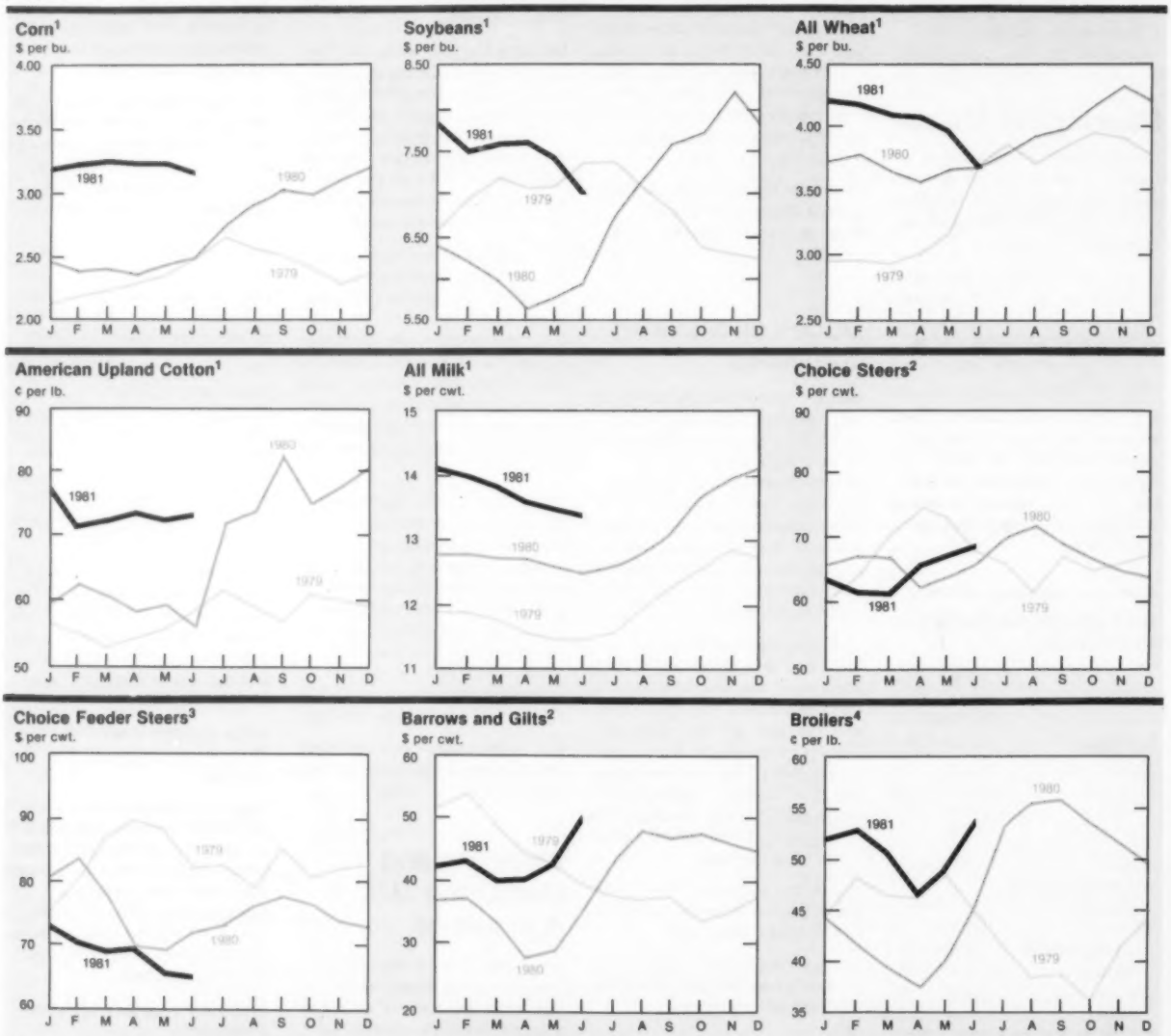
Hogs and pigs estimates are published quarterly covering the 14 major states in March and September and all states in June and December. Data include estimated number of market and breeding hogs by weight groups, sow farrowings, pig crops and farrowing intentions.

Preparing Crop and Livestock Estimates.

FARMLINE TRENDS

Monthly Price Monitor

Corn and soybean prices fell slightly in mid-June, but remained above prices of a year ago. Cotton held at the high levels reached in July 1980 when prices jumped 16¢. Prices for wheat fell below year-ago levels, hitting their lowest point since April 1980. Milk continued its decline since January, but prices were still well above June 1980 levels. All livestock prices rose except Kansas City Choice feeder steers, which fell to their lowest point since mid-1978. Prices for Omaha barrows and gilts rose more than $7, reflecting cutbacks in production.

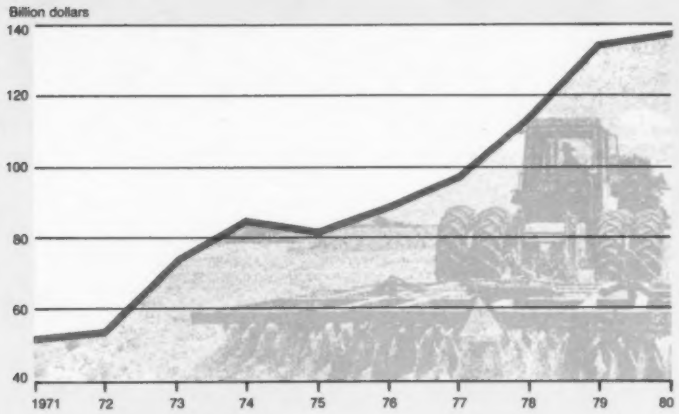


[1]U.S. average prices received by farmers. Prices for the latest month are mid-month averages. [2]Omaha. [3]600-700 lbs., Kansas City. [4]Wholesale, New York.

Keeping Track of Farm Spending

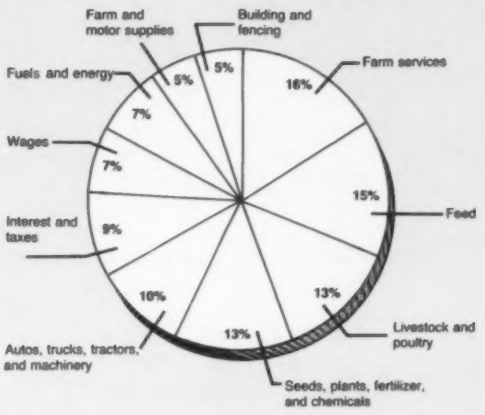
Farmers' outlays for production items have been rising since 1975, and a recent national survey showed that 1980 spending continued the trend. But the $137-billion production bill for all farms was only 2.3 percent higher than the year before, compared with the 18-percent jump in 1979. The increase in average expenditures per farm was also comparatively slight—$1,000 more than 1979's $55,000. Reduced spending in some areas reflected not so much lower prices as the obstacles to buying presented by tight money and low rates of return. (See page 9 for more on the survey results.)

1980 Farm Spending[1] Up Again, But the Smallest Rise Since 1975



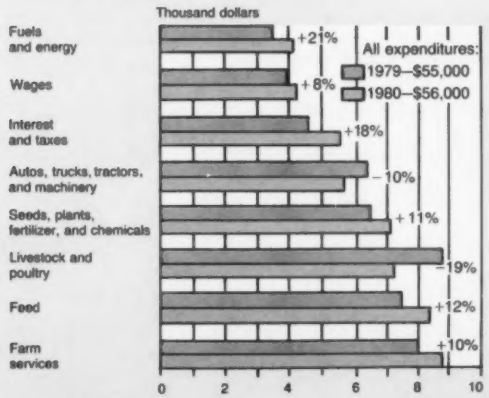
[1] Total farm production expenditures, 48 states.

How The Production Bill Breaks Down[1]



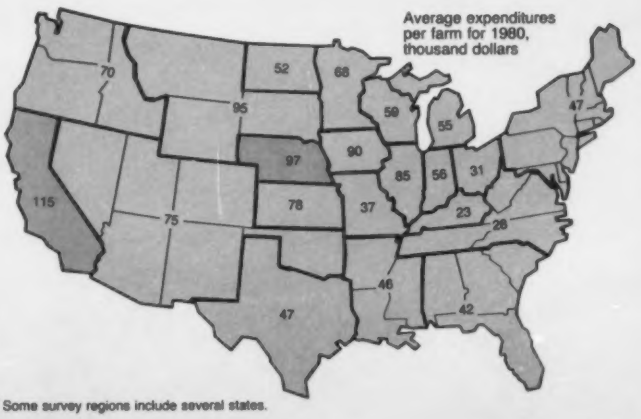
[1] Based on 1980 data.

Rising Energy Costs Helped Push Up Average Expenditures Per Farm



All data excludes Alaska and Hawaii.

. . . With California and Nebraska Farms Paying the Largest Bills[1]



[1] Some survey regions include several states.

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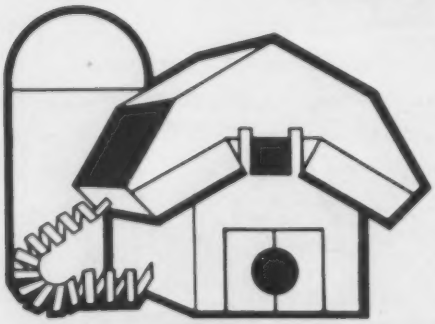

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